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MALNUTRITION SCREENING IN AN IN-CENTRE HAEMODIALYSIS UNIT: APPETITE FOR CHANGE?

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Best Practice Guidelines recommend regular nutrition assessment of patients receiving haemodialysis, with priority to those with poorly controlled co-morbidities or malnutrition. On a nurse-led monthly care plan, serum albumin is currently being used to identify patients requiring referral to a dietitian. It is well documented that the specificity of serum albumin as a nutritional marker is limited by the presence of inflammation. The purpose was to compare albumin with an alternative screening tool.

An annual malnutrition audit was conducted with 100 patients attending in-centre Haemodialysis across two centres. Each were assessed using the PG-SGA or SGA, and asked to rate their appetite on a five point scale (very poor, poor, fair, good or very good). Pre dialysis serum albumin levels were noted.

Of the 100 patients assessed, 28% were classified as malnourished. 61% of all patients had a serum albumin of 35 g/L or less. 31% of all patients rated their appetite as being fair, poor or very poor. The sensitivity, specificity, positive predictive values and negative predictive values of albumin and appetite as a screening tool for malnutrition can be seen in the table.

	Albumin ($\leq$ 35 g/L)	Appetite ($\leq$ fair)
Sensitivity	0.86	0.78
Specificity	0.49	0.86
Positive Predictive Value	0.39	0.68
Negative Predictive Value	0.90	0.91

If albumin is used as a screen for malnutrition and referral to a dietitian, 61% of those referrals will be assessed by the dietitian as well nourished, and 14% of malnourished patients would be missed. If appetite was used as a screen for malnutrition, 32% of those referrals will be assessed by the dietitian as well nourished, and 22% of malnourished patients would be missed.

Asking patients to rate their appetite on a five point scale appears to be an effective way to screen for malnutrition in the haemodialysis population. In centres with limited dietitian support, this may be preferable to screening with albumin due to the reduced number of inappropriate referrals and therefore enabling the priority to lie with the patients with malnutrition.

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DIABETES ASSOCIATED OXIDATIVE STRESS AND INFLAMMATION ALTERS THE PROTECTIVE EFFECT OF OBESITY ON SURVIVAL IN CHD PATIENTS

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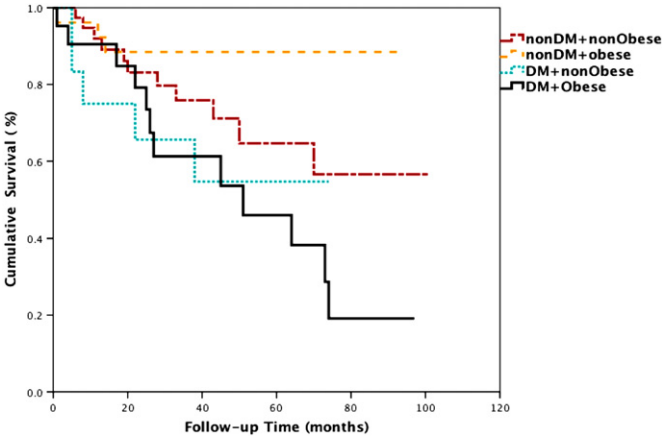
In contrast to the adverse outcomes of obesity in general population, increased body mass index (BMI) is associated with improved survival in hemodialysis (CHD) patients. The aim of this retrospective study was to evaluate the association between obesity and mortality by diabetic status among 98 maintenance CHD patients. The median follow up was 33 (19, 56) months. Mean age was 49 $\pm$ 13 years, 66% were male and 48 % had obesity. 45% of obese subjects were diabetic. Among the subgroups of study population, survival of diabetic obese patients was significantly lower compared to non-diabetic obese subjects ($p=0.007$) (Figure 1). The subgroup comparisons showed that diabetic obese patients tend to have higher truncal fat percentage ($p<0.001$) and lower lean body mass standardized by body surface area compared to nondiabetic counterparts although difference was not statistically significance. Diabetic obese patients had higher leptin ($p=0.001$) and high sensitivity C-reactive protein levels (0.005). Additionally, protein thiols (P-SH) were significantly decreased in diabetic obese participants ($p=0.03$). Although, elevated body fatness appears to be protective for CHD population, presence of overt diabetes alters this advantage by increasing inflammation and oxidative stress.



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FERMENTED SOYBEAN CAKE AND ALBUMIN FORMULA AS NUTRITIONAL SUPPORT PREVENTS PROTEIN ENERGY MALNUTRITION AND AKI IN STROKE PATIENTS

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Stroke is the leading cause of death in every hospital in Indonesia. The death rate of newly formed or recurrent stroke is estimated around 750.000 case every year nation wide, 200.000 of which are recurrent stroke. Stroke patients have higher risk to develop another stroke attack. In 5 years time, the recurrence of stroke attack is estimated around 30–43%. In many cases, elderly stroke patients who were admitted to the hospital with recurrent stroke attack also suffer from anorexia which leads to hypoalbuminemia, hyponatremia, hypokalemia and impaired renal function marked by a rise in ureum level with or without elevation in blood creatinin levels. This study uses pre and post nutrition intervention method. Hospital's fermented soybean cake and albumin blend formula was given through nasogastric tube. The amount of calorie was adjusted according to basal needs x 1,3 and consisted of carbohydrate, protein 1 gram/kg BB (albumin : fermented soybean cake = 3:1) and 25% fat. This formula was given to 11 stroke patients who had been admitted to Atma Jaya Hospital for at least 10 days and met the inclusion & exclusion criteria, such as did not receive parenteral blood and albumin transfusion without history of renal failure. All the patients' intake and fluid balance were monitored. The average albumin level of these patients was $\pm$ 3,1 mg/dL(pre intervention). After receiving nutrition (NGT) and fluid (parenteral nutrition) intervention, the result is as follows: There was an average of $\pm$ 5 mg increase in Natrium level during day 3–5 of hospital stay. There was an average of $\pm$ 0,3 mg increase in Kalium level during day 2–3 of hospital stay. There was an average of $\pm$ 15 mg reduction of Ureum level during day 5–7 of hospital stay When there was inadequate calorie intake, protein from muscle might be broken down marked by a rise in blood ureum level with or without an increase in creatinin level. In this condition, electrolyte level, such as Natrium and Kalium, could be corrected with appropriate nutritional support (adequate calorie, protein and mineral) and therefore prevents acute kidney injury and protein energy malnutrition in elderly patients with anorexia.

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DIETARY PROTEIN INTAKE IS INDEPENDENTLY ASSOCIATED WITH THE URINARY EXCRETION OF PHOSPHATE

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Decrease of urinary phosphate (P) excretion and P retention triggers activation of phosphotonins and subsequent development of secondary hyperparathyroidism in progressing of chronic kidney disease (CKD). The main source of P is dietary protein. No large studies are presented to-date to evaluate the relationship between dietary protein intake and parameters of P metabolism in CKD patients. This was a goal of the cross-sectional cohort study .11315 CKD patients were entered (males 43%).